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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,220	09/29/2000	Minoru Nakano	3094/FLK	1221

7590 03/15/2005  
KATTEN, MUCHIN, ZAVIS, ROSENMAN  
575 MADISON AVENUE  
NEW YORK, NY 10022-2585

EXAMINER

EVERHART, CARIDAD

ART UNIT PAPER NUMBER

2829

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b> 09/675,220	<b>Applicant(s)</b> NAKANO ET AL.	
	<b>Examiner</b> Caridad M. Everhart	<b>Art Unit</b> 2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 September 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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Applicant's arguments with respect to claims 6-10 have been considered but are moot in view of the new ground(s) of rejection.

Applicant has argued that Anderson mentions PID control as being conventional, while applicant has amended to include the limitation of PD-I control. Applicant has further argued that Anderson does not teach applicant's limitation of a target temperature. Applicant has also presented arguments with respect to motivation to combine references. However, ~~since~~ applicant has not specifically pointed out errors in the motivation used to combine the references.

With respect to the first argument, the following rejection is made in combination with a new reference, which was made necessary by applicant's amendment.

With respect to the second argument, the target temperature is set by the desired conditions for the process, and the desired temperature disclosed by Anderson is the target temperature.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 6,064,799) in view of Mori et al (US 4,607,326).

Anderson discloses a method in which the wafer temperature is determined by either one or by two pyrometers in order to use computer feedback control (col. 4, lines 20-35 and col. 6, lines 58-67) and the power ratios to the heaters are independently controlled by computer (col. 4, lines 14-21 and col. 5, lines 43-54, col. 7, lines 40-44, and col. 8,

lines 55-58). The look up tables are predetermined by a calibration step, in which the disclosure that the temperatures of a test wafer are determined for a plurality of radial locations on the test wafer and this implied temperature determination at the center and the edges of the wafer, as various radial locations implies this(Col. 5, lines 43-48)is interpreted to imply that there are more temperature sensors for the calibration step than for the process runs, in which there are either two or one temperature sensor, as indicated in the portions of Anderson already cited. The temperatures in the look-up tables are interpreted to be the target temperatures. Anderson indicates that there may be different temperature targets at the beginning and end of a process, so that these are interpreted as being the two temperatures(col. 4, lines 44-54).

Anderson is silent with respect to the details of calculations involved. Anderson does teach that PID or other methods may be used in the calculations(col. lines 63-67).

Mori et al teach that in addition to the PID method which is mentioned as one of the methods can be used in the method disclosed by Anderson, that the method of carrying out the I operation and the PD operation separately(col. 1, lines 40-55 and col. 3, lines 1-10), and the controller can also be set to carry out calculations in the I-P mode as well as in the I-PD mode(col. 3,lines 50-55). While Mori et al makes a disclosure in general terms, it is clear to one of ordinary skill in the art that this can be applied to power ratios which are applied in temperature control, as Mori et al teach that the method can be applied to temperature control(col. 2, lines 25-34).

It would have been obvious to one of ordinary skill in the art to have used the I-PD method as taught by Mori et al in the method taught by Anderson because

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Anderson teaches that not only the PID method but other methods can be used, and the I-PD method is related to the PID method, as taught by Mori et al and provides control for dynamic temperature control(col. 2, lines 25-34). In addition, control it is well known in the art how to calculate power ratios and how to interpolate the values of the data and the calculated power ratios in order to obtain the control of the heating lamps carried out by computer as taught by Anderson. It would have been obvious to one of ordinary skill in the art at the time of the invention that the interpolation of data and the calculation of power ratios would have been carried out in computer analysis in the process taught by Anderson, because these are implied in the disclosure made by Anderson .

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caridad M. Everhart whose telephone number is 571-272-1892. The examiner can normally be reached on Monday through Fridays 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, B. Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Everhart  
3-8-2005

*C. Everhart*  
CARIDAD EVERHART  
PRIMARY EXAMINER